

particular composition of the organotin compound used in the stabilizing composition is not of critical importance in the present invention. Indeed, the critical aspect of the present invention is Applicants' discovery that a combination of a mercapto alkanol ester of a monocarboxylic acid with conventional organotin stabilizers results in stabilizing compositions having enhanced utility.

It is particularly noted that the claims originally presented in both U.S. Patent Application Serial No. 06/070,503 (filed August 28, 1979) and French Application No. 78 24863 (filed August 29, 1978), upon which this application claims priority under 35 U.S.C. §§ 120 and 119, respectively, contained Jepson-type claims. That the claims were originally presented in such a Jepson-type format emphasizes that the novelty of the invention lies in the combination of mercapto alkanol esters of monocarboxylic acids with conventional organotin stabilizers, and not in the use of any particular organotin compounds per se.

Indeed, because the preamble of a Jepson-type claim is traditionally held as an implied admission of the prior art,<sup>1/</sup> Applicants did not believe it was necessary at the time of the original application to set forth with particularity that which was considered to be conventional in the art of organotin stabilizers. Applicants fully envisioned that they were entitled to a broad definition of the old and well-known organotin

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<sup>1/</sup> See Pentec v. Graphic Controls, 227 U.S.P.Q. 766, 770 (Fed. Cir. 1985), In re Aldrich, 158 U.S.P.Q. 311, 312 (C.C.P.A. 1968), 37 C.F.R. § 1.75(e).

compounds, given that such organotins represented an old, well-known, art-recognized class of materials.

The above-discussion provides the backbone for the traversal of the rejections over the prior art below.

## II. 35 U.S.C. § 102(a) Rejection over Japanese Patents

The Examiner rejects claims 176-183, 193-198, 200-207, 209-217, 219-225, 227-233, and 237-323 under 35 U.S.C. § 102(a) as being fully met by either of Japanese Patent 55-160044 or 56-2336. For the reasons discussed below, this rejection is respectfully traversed.

The Examiner alleges that each reference discloses an organotin mercapto acid ester or organotin mercapto acid ester halide in combination with a mercapto alkanol-derived ester of a hydrocarbyl monocarboxylic acid as a heat stabilizer system for vinyl halide resins. These Japanese patents are not proper prior art under 35 U.S.C. § 102. The filing dates of August 28, 1979 for (original) parent application Serial No. 06/070,503, and August 29, 1978 for French priority application no. 78 24863 predate the publication dates December 12, 1980 and January 12, 1981 of the Japanese documents.

The Examiner, however, disagrees with applicants' entitlement to priority contending that the U.S. filed application Serial No. 06/254,313 filed April (sic) 15, 1981<sup>2/</sup> is the earliest application which disclosure supports the broad class terminologies and species set forth in this application and the

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<sup>2</sup> The filing date of May 15, 1981 stated by the Examiner is incorrect.

Japanese references publication dates antedate the April 15, 1981 filing date. The Examiner supports her position by stating that the species of each stabilizer, i.e., organotin and mercapto ester, are far more numerous than the two species set forth in applicants' foreign priority applications.

The two Japanese documents disclose a multitude of species and the Examiner appears to be relying on these disclosures to justify the alleged inadequacies of Serial No. 06/070,503 and applicants' foreign priority document. This reliance is not proper. The sufficiency under § 112, first paragraph, must be judged as of its filing date. As stated in In re Hogan 194 U.S.P.Q. 527, 538 (C.C.P.A. 1977):

Consideration of a later existing state of the art in testing for compliance with §112, first paragraph, would not only preclude the grant of broad claims, but would wreak havoc in other ways as well.

Even though the temptation is great to use the Japanese documents as a guideline, the Examiner must disregard these documents when determining the sufficiency of the disclosure under 35 U.S.C. § 112, first paragraph, of Serial No. 06/070,503 and the French priority document.

Furthermore, the Examiner cannot rely on the additional species disclosed in Applicants' 06/254,313 application (continuation-in-part (CIP) of 06/070,503) to support a non-enablement rejection. In a case which parallels In re Hogan, *supra*, the court held that the disclosure of specifics [in a CIP application] *adds* to the understanding one skilled in the art would glean from a generic term, but it does not follow that such

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added disclosure *limits* the meaning thereof. In re Koller, 204 U.S.P.Q. 702 (C.C.P.A. 1980). In other words, the Examiner cannot use the expanded number of species in the CIP to limit the use of the generic terms because only a few species were recited in the parent.

The Examiner believes that the Board of Patent Appeals and Interferences decision in parent application 06/254,313 supports her rationale. The Examiner fails to consider, however, that the Board's holding was directed to claims not present in the pending application. Simply stating that the Board supports her rationale, does not address the amendments made since the decision in efforts to eliminate the problems the Board had with the claims.

The Board's decision, in fact, supports applicants' position that the claims as now written are fully enabled by the originally filed application. The Board recognized at page 3 of the decision that the original U.S. application (Serial No. 06/70,503) had disclosed the generic use of mono- and diorgano derivatives of tetravalent tin with or without sulfur. The Board pointed out particular examples found in the original application supporting Applicants' generic disclosure of organotin compounds having at least one sulfur bonded to tin therein. The Board did not hold that Applicants' claimed invention should be limited to only those organotin compounds specifically disclosed in the French and originally filed U.S. applications.

The Examiner must consider that the claims previously presented on appeal are not the same claims now pending in the

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present application. The Board stated that U.S. Patent Application Serial No. 06/254,313 had enlarged the scope of the mono- and diorganotin derivatives set forth in the originally filed U.S. Patent Application Serial No. 06/070,503. *April 15, 1981*

*Non-Excluded?*

Particularly, the 06/254,313 application "specifically claimed tin derivatives in which the remaining valences were satisfied by halogen and phosphorous, as well as by the removal of the hydrogen atom from the oxygen atom of a carboxylic acid, an alcohol or toluol and by the removal of the hydrogen atom from the sulfur atom of the mercaptan, mercapto alcohol, mercapto acid or mercapto alcohol ester." The Board then concluded that Applicants were not entitled to the benefit of the filing date of 06/070,503 "for the instant claims on appeal," because they defined "subject matter not disclosed in the parent case." (Emphasis added). The Board merely held that the originally filed application did not provide support for claims specifically reciting tin derivatives having the remaining valences satisfied by the bonds described above without at least one sulfur bonded to tin.

Both the French application and the originally filed U.S. application specifically identify at page 1, paragraph 1, that organotins are the class of compounds of primary interest in the disclosed invention. In discussing the background of vinyl halide stabilization at page 1, paragraph 2, both applications refer to conventional organotin stabilizing compounds as being those containing both tin and sulfur. At page 6, paragraph 3, each application states in pertinent part:

It is remarkable that these results can be obtained as well with mono- or di-organic tin

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derivatives, with salts of tin not containing sulfur and with those which also contain the latter with their mixtures.

The above noted disclosures expressly teach that mono- and diorganotins containing sulfur atoms were contemplated for the present invention. The examples contained in the specifications of each of the applications reinforce and support this teaching by demonstrating compounds having at least one sulfur atom bonded to tin, as would have been the case in the conventionally known stabilizers at the time the French application was filed.

Example 3 adds a mercapto alkanol ester to the conventional di-n-octyltin bis-(isooctyl mercapto acetate), and Example 8 uses the butyltin counterpart di-n-butyltin bis-(isooctyl mercapto acetate). Example 7 uses a mixture of an anhydride of thiobutyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and several examples, for example, Example 4, illustrate the use of a condensation polymer of butyl stannic acid and butyl thiostannic acid.

The Examiner refers to the English translation of the French priority document and states that the translation relates that the mercapto alkanol ester of a hydrocarbyl or optionally substituted hydrocarbyl monocarboxylic acid can be advantageously added to various ostensibly known tin-containing stabilizers to improve the latter's performance in vinyl halide resins exposed to elevated temperatures. The Examiner then recites the specific tin derivatives disclosed in the originally filed application (recited in the previous paragraph) and contends that this disclosure is not tantamount to encompassing all and any known organotin

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stabilizers at that time, much less those having Sn-S bonds. The Examiner further states that no Sn-halide bonded compounds are disclosed whatsoever and concludes that applicants' earlier foreign filed priority documents were simply not enabling.

Applicants disagree with the Examiner's position. First, the various aspects of the U.S. and French applications noted above clearly support claims in which the stabilizer composition includes a mercapto alkanol ester of a monocarboxylic acid in combination with a mono- or diorganotin compound wherein at least one atom bonded to tin is sulfur. The disclosure of the original application supports the position that known mono- and diorganic derivatives were contemplated by the present inventors. Because applicants only recite a few examples in the specification does not take away from what was contemplated by the inventors. Applicants have always maintained that their invention is the addition of a mercapto alkanol ester of a monocarboxylic acid to known organotin compounds for the stabilization of vinyl halide resins.

Second, specifically regarding halogen-containing tin compounds, the previously submitted declarations by Messrs. Foure, Mendelsohn, Chenard, Rakita and Larkin show that prior to December 12, 1980, experiments were conducted in the U.S. on Applicants' behalf in which mono- or diorganotin compounds containing at least one halogen bonded to tin were combined with mercapto alkanol esters of monocarboxylic acid. These declarations show a reduction to practice earlier than the Japanese references publication dates. These declarations also support applicants'

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position that known organotin compounds were contemplated by the inventors at the time of the filing of the original parent application.

The Board addressed the Foure, Mendelsohn, Chenard, Rakita and Larkin declarations in its decision by following a two-tiered analysis. The Board stated at page 6 of the decision that in order to effectively antedate references applicants must show priority with respect to (1) only so much of the claimed invention as the references disclose, In re Stempel, 241 F.2d 755, 113 U.S.P.Q. 77 (C.C.P.A. 1957), or (2) only so much as to render the claimed invention obvious. In re Spiller, 500 F.2d 1170, 182 U.S.P.Q. 614 (C.C.P.A. 1971).

The Board held that the affidavit evidence presented showed only part of what the Japanese KoKai references showed, and therefor, did not effectively remove the references under the standard set forth in In re Stempel. The Board emphasized that "it is how much the references show of the claimed invention that is crucial to the requirement of what the affidavit must show."

The Board was analyzing cancelled claims 59-62 and 64-69 in its decision. These claims specifically recited the organotin as being a mono- or diorgano- derivative of tetravalent tin wherein the remaining valences of the tin atom were satisfied by bonds to halogen, oxygen, phosphorous, sulfur and a residue resulting from i) the removal of the hydrogen atom from the oxygen atom of a carboxylic acid, an alcohol or a polyol or ii) removal of the hydrogen from the sulfur atom of a mercaptan, mercaptoacid, mercaptoalcohol, mercaptoacid ester or mercaptoalcohol ester. The

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Board's position was that the Japanese KoKai references showed more of the claimed compound than the affidavit evidence presented, and thus, the affidavit evidence failed to antedate the cited references.

*Polyma*  
*D. H. H.*

Claims 59-62 and 64-69 were cancelled, and claims 176-183 and 296-323, directed to halogen-containing tin compounds, are presently pending. These pending claims do not contain the recitation of compounds considered by the Board but instead contain mono- or diorganotin compounds wherein at least one atom bounded to tin is a halogen. Applying the Board's analysis, the affidavit evidence previously submitted effectively removes the Japanese references for the present claims. The experiments conducted by Mr. Foure are clearly commensurate in scope with what the cited references show of the now claimed invention. Thus, in accordance with In re Stempel, 241 F.2d 755, 113 U.S.P.Q. 77 (C.C.P.A. 1957), applicants have effectively antedated the Japanese documents by showing priority with respect to only so much of the claimed invention as the references disclose.<sup>3/</sup>

As further support of what was known in the art at the time of the claimed invention, applicants submitted some forty-plus references. The Examiner contends, however, that the multitude of patents proffered showing various types of organotin structures vis-a-vis their effect on static (color) or dynamic (viscosity

<sup>3/</sup> In re Stempel was distinguished in In re Gosteli, 872 F.2d 1008, 10 U.S.P.Q.2d 1614 (Fed. Cir. 1989) Gosteli tried to antedate a reference under 37 C.F.R. § 1.131 by relying on his foreign priority document, but failed because Rule 131 requires acts in the U.S. Applicants, in the present application, are relying on events which occurred in the U.S. in accordance with Rule 131.

changes) stability indicates that all organotin compounds were not inevitably equivalent for all heat stabilizing purposes. The Examiner concludes that applicants' disclosure would not be considered instructive to all and every organotin Sn-S containing stabilizer's enhancement.

The Examiner must consider the state of the art and the intent of the claimed invention. Applicants discovered an improvement in the stabilization properties of known organotin compounds in vinyl halide resins. The extent of the organotins stability by itself is not the issue. Instead, the issue is whether the addition of the mercapto alkanol ester of a monocarboxylic acid improves the stability of the organotin compound in vinyl halide resins.

Even if some experimentation is required to determine which mono- or diorganotin compounds work in the claimed invention, the specification is still enabled. The mere fact that some experimentation is necessary does not prove a lack of enablement so long as undue experimentation is not required. See In re Angstadt, 190 U.S.P.Q. 214, 219 (C.C.P.A. 1976); In re Wands 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988) M.P.E.P. § 608.01(p). Furthermore, it is not the responsibility of applicants to come forward with evidence disproving undue experimentation; rather, the burden is on the Patent Office to establish the necessity of undue experimentation. The Examiner has not shown undue experimentation would be required. At most, the Examiner has shown that some organotin compounds may not be as effective as other organotin compounds.

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In view of the above remarks, the Japanese references are not proper prior art under 35 U.S.C. § 102(a); therefore this rejection is in error and should be withdrawn.

II. 35 U.S.C. § 102(a) Rejection over Kugele

The Examiner rejects claims 176, 183, 237-246, 247-254, 261-272, 279-287 and 295 under 35 U.S.C. § 102(a) as being fully met by Kugele (114). The Examiner states that Kugele discloses as a PVC stabilizer the mixture of either an organotin organic acid ester or acid halide of formulas II, III, IV, or V with a mercaptoester,  $\text{HSR-O(O) C-R-SH}$ . The Examiner considers the earliest disclosure in Kugele for this combination to be February 26, 1981 (sic).<sup>4/</sup> The Examiner further states that applicants nowhere in any document disclose any mercapto alcohol ester of a mercapto substituted alkanolic acid although on page (??) of the parent application filed April 15, 1981, the acid portion  $\text{(O)CR}^2\text{H}$  is described as possibly containing a mercapto substituent. The Examiner contends that no disclosure is provided to delineate what is intended to be conveyed, i.e., whether  $\text{-RSH}$ ,  $\text{-SH}$ ,  $\text{-SR}$  or another  $\text{S-R-C(O)OR}$  radical is contemplated. For the reasons discussed below, this rejection is traversed.

Kugele is not a proper reference under 35 U.S.C. § 102(a) for the same reasons that the Japanese patents are not proper references as discussed above which discussion is hereby incorporated by reference. Particularly, the filing date of the original parent application Serial No. 06/070,503 (August 28,

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<sup>4/</sup> The filing date of February 29, 1982 stated by the Examiner is incorrect.

1979) predates the earliest possible filing date of Kugele (February 26, 1981). Thus the Examiner should withdraw this rejection.

In response to the Examiner comments, the Examiner is requested to clarify the page number of applicants' specification allegedly disclosing the mercapto substituent in the acid portion of  $(O)CR^2H$ . Applicants provide a mercapto group in the alcohol portion of the mercapto alkanol ester of a monocarboxylic acid.

Kugele supports applicants' position that organotin compounds were well known in the art as stabilizers for halogen containing polymers. See column 1, lines 24-39. Kugele sought an improvement over these organotin stabilizers recognizing that they were not sufficient alone. Kugele also recognized that mercaptan-containing compounds were well known. See column 13, lines 28-30. Thus Kugele's alleged contribution to the art is the addition of a mercaptan-containing organic compound to an organotin stabilizer.

Applicants, however, were the first to discover that the addition of a mercapto alkanol ester of a monocarboxylic acid to an organotin stabilizer containing an Sn-S or Sn-halogen bond improved the stabilization of vinyl halide resins as evidenced by the filing date of 06/070,503 and the priority documents. Kugele is not a reference under § 102, and the Examiner is requested to withdraw the rejection under 35 U.S.C. §102(a) over Kugele.

### III. The 35 U.S.C. § 102(a) Rejection Over Bresser et al. (486)

The Examiner rejects claims 193-198 and 237-295 under 35 U.S.C. § 102(a) as being fully met by Bresser et al. (486). For

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the reasons discussed below, this rejection is respectfully traversed.

Bresser (486) allegedly discloses a tertiary stabilization system for PVC resins, and has an effective filing date of February 26, 1981, which the Examiner contends antedates applicants' earliest disclosure, Serial No. 254,313 filed April 15, 1981. The Examiner contends that the stabilizer system comprises mono- and di-organotin mercapto compounds and the subject mercaptoalkanol derived carboxylic acid esters. The Examiner states that except for the organotin structures XII and XIII, applicant has no support for these various permutations upon which compositions and methods the instant claims organotin-S and thiol combination reads.

First, Bresser (486) is not a proper references under 35 U.S.C. § 102(a) for the same reasons that the Japanese patents are not proper references as discussed above which discussion is hereby incorporated by reference. Particularly, applicants are entitled to the filing date of original parent application Serial No. 06/070,503 (August 28, 1979) which date predates the earliest filing date of Bresser (486) (February 26, 1981).

Furthermore, the Examiner is impermissibly relying on the disclosure of Bresser (486) to determine the sufficiency of the disclosure of the original application. As stated in In re Hogan, 194 U.S.P.Q. 527, 537 (Fed. Cir. 1977)

A later state of the art is that state coming into existence after the filing date of an application. This court has approved use of later publications as evidence of the state of art *existing on the filing date* of an application. That approval does not extend,

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however, to the use of a later ... publication disclosing a later ... existing state of the art in testing an earlier ... application for compliance with § 112, first paragraph ...

... As pioneers [applicants] would deserve broad claims to a broad concept.

Applicants were the first to discover that the addition of a mercaptan-containing organic compound to an organotin stabilizer having a Sn-S or Sn-halogen bond improved the stabilization of vinyl halide resins. Applicants therefore deserve broad claims to this broad concept. The fact that Bresser (486) provides more examples than applicants should not preclude applicants from getting protection of their invention.

Since applicants are entitled to the filing date of 06/070,503, Bresser (486) is not a reference under 35 U.S.C. § 102; thus the rejection under § 102(a) is in error and should be withdrawn.

IV. The 35 U.S.C. § 102(a) Rejection Over Bresser et al. (984)

The Examiner rejects claims 193, 198 and 237-295 under 35 U.S.C. § 102(a) as being fully met by Bresser et al. (984). For the reasons discussed below, this rejection is respectfully traversed.

The Examiner states that Bresser (984) discloses  
R-Sn-S-R-Sn-R, optionally with diorganotin mercapto compounds,  
    ||      ||  
    O/S     O/S  
and a mercapto stabilizer which can be a mercapto alcohol ester of a mercapto carboxylic acid. The Examiner contends that applicants' claims broadly encompass this invention (Sn-S containing organotin compound and mercapto ester of a

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monocarboxylic acid) but finds no support therefore in any of the parent applications or the instant application.

Bresser (984) is not a proper reference under 35 U.S.C. § 102(a) for the same reasons that the Japanese patents are not proper references as discussed above which discussion is hereby incorporated by reference. Particularly, the filing date of original parent application Serial No. 06/070,503 (August 28, 1979) predates the earliest filing date of Bresser (984) (Feb 26, 1981).

Furthermore, in the § 102(a) rejection over Japanese patents 55-160044 or 56-2336, the Examiner states that U.S. filed application Serial No. 07/254,313 filed April 15, 1981 is the earliest application which disclosure supports the broad class terminologies and species set forth in this application. Now the Examiner states that this disclosure provides no support for Sn-S containing organotin compound and mercapto ester of a monocarboxylic acid. Besides being inconsistent, the Examiner is again improperly relying on the disclosure of a later-filed application to determine the sufficiency of the disclosure under § 112, first paragraph. See In re Hogan, *supra*.

Applicants were the first to discover that the addition of a mercaptan-containing organic compound to an organotin stabilizer having a Sn-S or Sn-halogen bond improved the stabilization of vinyl halide resins. Applicants deserve broad claims to this broad concept.

Since applicants are entitled to the filing date of 06/070,503, Bresser (984) is not a reference under 35 U.S.C.

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§ 102; thus the rejection under § 102(a) is in error and should be withdrawn.

V. The 35 U.S.C. § 103 Rejection over Gough in view of Stapfer, Hechenbleikner et al. (129 and 527), Wowk, Schroeder et al., Weinberg et al. (750) and Kauder et al. (915)

The Examiner rejects claims 176-183, 193-198, 200-207, 209-217, 219-225, 227-233 and 237-323 under 35 U.S.C. § 103 over Gough et al. in view of Stapfer, Hechenbleikner et al. (129 and 527), Wowk, Schroeder et al., Weinberg et al. (750) and Kauder et al. (915).

The Examiner contends that Gough discloses mercapto alkanol esters of a monocarboxylic acid as PVC heat stabilizers when used with an organotin borate. The Examiner alleges that applicants' statement at page 3 of the specification "[i]n general, when the prior art additive contains a mercaptan function, the sulphur atom is always located in the acid residue..." is clearly erroneous since the species 2-thioethyl octanoate of Gough contains the -SH radical in the alcohol derived portion. The Examiner is misconstruing the statement. The first part of the first paragraph on page 3 describes various prior art documents including Gough. The quoted statement above pertains to a general description of the prior art as evidenced by the opening words, "in general."

Applicants go on to state "the location of the mercapto group has a significant effect upon performance with respect to stabilization." Gough describes a variety of organic thiols as evidenced by formulas (d), (e), (f) and (g), but nowhere describes that the location of the mercapto group affects stabilization.

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Thus, even if Gough describes compounds having the -SH radical in the alcohol derived portion, there is no teaching that these compounds provide better results over compounds having -SH radicals in the acid residue. For instance, the esters of the present invention do not have the volatility and odor associated with prior art sulfur compounds, are inexpensive and have good viscosity and lubrication qualities. See page 2, second and third paragraphs, of Serial No. 06/070,503.

The Examiner claims that Gough teaches that both dynamics and static instabilities are ameliorated by the combination. The Examiner recognizes that Gough uses an organotin borate co-stabilizer, but asserts that comparative example 7 containing dimethyl tin bis(isooctyl thioglycolate) (DMTBOT) shows that relative to no stabilizers presence (example 12) or merely a mercapto acid ester's presence (example 16), use of another organotin compound (within applicants' claimed organotin compounds) gives superior stability.

*Important!*

Applicants have always maintained that the organotin compounds used in the claimed invention were well known in the art. Gough merely recognizes this fact by using DMTBOT in a comparative example ( Gough at no point teaches or suggests the combination of this organotin compound with the mercapto alkanol ester. Since DMTBOT was a known stabilizer, the fact that it improved the stability of PVC over PVC without a stabilizer would have been expected.)

The Examiner supports her position by stating that the compound's stabilizing effect is even greater than that afforded

by the organotin borate and that it would be reasonable to expect that the superior tin stabilizer, DMTBOT, would experience some enhancement in its stabilizing performance by supplementation with the same class of mercapto compounds having the mercapto radical in the alcohol derived portion of the molecule.

There is simply no motivation to combine DMTBOT with any organic thiol absent hindsight knowledge afforded by the claimed invention. Gough was perfectly aware of organotin compounds other than organotin borates. See column 1, lines 44-66 of Gough. Gough, however, did not even combine DMTBOT with the octylthioglycolate used in the examples, let alone any other mercapto compounds. Gough's advancement to the art of PVC stabilization was the combination of an organo borate and an organic thiol.

The Examiner then considers Gough's thiol-containing antioxidant's use to enhance the organotin borate's performance is an extension of the teachings of Stapfer and the Hechenbleikner patents, that sulfur-containing compounds synergistically extend the heat stability of organotin compounds inclusive of the alkyl and alkylthio-stannic acids, known alternative stabilizers to the organotin mercapto acid esters.

Stapfer describes the use of organic divalent sulfur compounds as stabilizers for PVC. The organic divalent sulfur compounds (mercaptols, mercaptals, thioanhydrides or acyl mercaptols) of Stapfer are different from the mercapto alkanol ester of a monocarboxylic acid of the claimed invention. In fact, the Foure Affidavit under 35 U.S.C. § 132, filed in U.S.

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Application Serial No. 06/254,313, demonstrates that thiollaureic anhydride of Stapfer results in poorer performance than the claimed mercapto esters of the claimed invention.

Stapfer does not teach or suggest organotin borates. Thus, Stapfer provides no motivation to substitute the monohydrocarbyl tin compounds for the organotin borates of Gough. One of ordinary skill in the art would not have modified Gough to arrive at the claimed invention in view of Stapfer.

The Hechenbleikner patents disclose a mixture of a tin stabilizer and a non-tin-containing sulfur compound selected from a liquid polythiopolymercaptan and an alkylene glycol derivative. The non-tin-containing sulfur compounds are not the claimed mercapto alkanol ester of a monocarboxylic acid. There is no mention of an organotin borate and organotin sulfur or halogen compounds. Thus, nothing in Hechenbleikner would have lead one of ordinary skill in the art to replace Gough's organotin borate stabilizer with an organotin sulfur stabilizer from Hechenbleikner.

The Examiner states that Kauder's sulfides are the sulfide analogues with applicants same generic formula when  $Z=S$  on page 16 of the application. Applicants are not claiming that they discovered the sulfide compounds of the present invention. They are claiming the addition of a mercapto alkanol ester of a monocarboxylic acid to an organotin stabilizer. Kauder does not teach or suggest this combination and thus provides no motivation to modify Gough.

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The Examiner contends that the organotin halide compounds of Wowk and Schroeder, encompassed within applicants' Sn-halide definition, are also known organotin heat stabilizers for PVC which performance would be expectedly enhanced by the Gough's thiol compounds presence. Again the Examiner is using hindsight construction to obtain applicants' claimed invention. Applicants have always maintained that the organotin stabilizers were known in the art. Wowk and Schroeder do not add anything beyond what applicants' have stated. There is absolutely no motivation provided by these documents to modify Gough. There is no equivalence taught between the organotin borates of Gough and the organotin stabilizers of Wowk and Schroeder.

Out of all the documents cited during this prosecution, including the forty-plus documents cited by applicants and Wowk, Schroeder, Kauder, Hechenbleikner, and Weinberg, not one teaches the equivalence of organotin borates with organotin compounds of the present invention. Thus there is simply no motivation to substitute the organotin borate with another organotin compound. In fact, Gough teaches away from such a substitution by discussing alternative stabilizers, including organotin mercaptides, and then dismissing them. See column 1, lines 44-66. Thus one of ordinary skill in the art has no reason to modify Gough to arrive at the claimed invention.

In sum, Gough discusses the addition of mercapto alkanol esters to organotin borates for the stabilization of vinyl halide resins. Gough does not contain any teaching or suggestion to use

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any organotin compounds except for organotin borates and therefore does not teach or suggest the claimed invention.

Applicants are entitled to exclude the organotin borates from the claimed invention. There is no evidence that the organotin borates as set forth in Gough are equivalent to the organotin compounds of the present invention. Furthermore, applicants are not aware of any art which would motivate one of ordinary skill in the art to substitute a tin stabilizer as claimed in the present invention for the organotin borate of Gough.

It is respectfully requested that the Examiner reconsider her position, withdraw the rejections over the prior art, and issue the pending claims.

#### CONCLUSION

If there are any fees due in connection with the filing of this Amendment not accounted for, please charge such fees to our Deposit Account No. 06-0916. If an extension of time not accounted for is required for entry of this Amendment, such extension is hereby requested, and the requisite fee also should be charged to our Deposit Account.

Respectfully submitted,

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By Susan A. Wolfe  
Susan A. Wolfe  
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Date: June 28, 1993

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